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1984 ENVIRONMENTAL MANAGEMENT REPORT UPDATE

U.S. Environmental Protection Agency Region 10
Ernesta B. Barnes, Regional Administrator

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PART I Executive Summary

The Region 10 update to its Environmental Management Report describes progress during the past year in many State-Federal efforts to restore and protect highly prized environmental resources of the Pacific Northwest and Alaska.

The Region's major problems are the same in 1984 as in 1983, with one amendment: Lead pollution has been reclassified as a distinct problem. The list:

Exposure to Hazardous Waste.
Water Supply: Contamination of Ground Water and Drinking Water Supplies.
Toxic and Hazardous Materials in Marine and Estuarine Sediments.
Pesticides and Toxic Substances.
Lead Pollution.
Air Pollution: Carbon Monoxide and Ozone Air.
Air Pollution: Particulates.
Microbiological Contamination of Estuarine and Shellfish Areas.
Fishery Damage from Contaminated Waters.

Significant progress occurred in several areas during the past year:

The cleanup of abandoned hazardous wastes sites continued under Superfund; however, much remains to be done because the problem continued to grow. Superfund paid to build public water treatment facilities at two systems, one in Tacoma, Washington, and one nearby, drawing water from contaminated aquifers.

Region 10 established an Office of Ground Water to help States develop and expand their ground-water protection efforts. Investigations of ethylene dibromide (EDB) in drinking water and nitrate contamination in shallow ground water are under way with State and local health agencies. Efforts to identify high-priority aquifers are proceeding. Region 10 also is considering the designation of four additional sole-source aquifers, bringing the number of people whose drinking-water resource receives protection under this program to 600,000.

New State enforcement procedures have been developed to reduce persistent violations of drinking water rules; in Alaska, the number of persistent violators dropped by more than 5 percent each quarter. The number of people served by systems in persistent (four or more months a year) noncompliance with bacterial levels dropped by 50 percent to 11,000 in the latest report, for Fiscal 1983, compared with 22,000 in Fiscal 1982.

Public interest and action increased significantly in respect to correcting toxic contamination of marine and estuarine waters -- specifically Puget Sound. A crescendo of media interest began in spring and is not yet complete. The Regional Office, along with the Washington State Department of Ecology (WDOE), completed several investigations and drafted a three-year State-Federal initiative for further investigations, planning and action. Headquarters has committed new EPA resources for this work and the outlook for additional State resources is promising.

In the area of toxic substances, EPA completed initial asbestos inspections in about half of the local education agencies in Region 10 and expects to finish

the job in 1985. Follow-up inspections will be conducted in 1986.

EPA rules on the lead content of motor fuels are credited with significantly reducing lead pollution near heavily travelled roads. Persistent pollution of land and water from lead is a concern at three Superfund sites: At one, the owner is cleaning up, another site was paved over, and studies are under way at the third, Bunker Hill, an old, shutdown smelter in Idaho. No active facilities in Region 10 now cause excessive lead air pollution. We are working with the new owners of Bunker Hill to ensure any reopening of the smelter results in abatement of lead pollution, as the Clean Air Act requires.

Another smelter, the ASARCO copper smelter in Tacoma, Washington, announced plans to shut down in spring 1985. This smelter would have been subject to new National Emission Standards for Hazardous Air Pollutants -- arsenic, in this case. Region 10 held public meetings in and around Tacoma to gather comments on the proposed standards, and the Agency concluded that more stringent controls would be needed, but the planned shutdown was announced prior to any EPA announcement on the standards.

The public perception that air in the Northwest is well protected continues to be borne out by available data. In the nonattainment areas of Salem, Oregon, and Lewiston (ID)-Clarkston (WA), a total of around 125,000 people now breathe air that appears free of all excessive contamination. In Eugene-Springfield, Oregon, an additional 145,000 people are very close to that goal.

The Seattle-Tacoma and Portland-Vancouver areas, with a total of 2,450,000 people, rely on automobile inspection and maintenance programs for steady progress toward meeting the carbon monoxide standard by 1985. Year-end monitoring reports may confirm that the air in these areas is cleaned of excessive ozone. The standard for total suspended particulates now appears to be achieved, or nearly so, in Vancouver (130,000 people) and Seattle-Tacoma. Medford, Oregon, (133,000 people) also appears to have met the standard for ozone; however, the defeat in a referendum election of an approved vehicle inspection-and-maintenance program for Medford presently bars attainment of the carbon monoxide standard and likely will bring Clean Air Act sanctions.

Following extensive investigations, the Washington State Department of Ecology began a shellfish-protection program to rehabilitate and protect six unique areas of shellfish production. Closure of shellfish beds along the Oregon cost is being addressed by the implementation of dairy farm waste-control plans and efforts to improve sewage treatment operations.

Protection of the Northwest's richly productive fishery continues to engage high-priority attention at diverse places. For example, Oregon and Washington are implementing plans to control discharges from animal feedlots. Work to control pollution from gold placer-mine discharges in Alaska would improve about 2000 miles of streams.

Water quality improvements already are visible as a result of compliance with 63 permits developed by Region 10 for fish hatcheries in Idaho. Some hatchery operators attribute a reduction in disease to these improvements. About 90 percent of the commercially raised trout in the United States come from Idaho.

The issuance of general permits for oil and gas exploration in the Bering Sea and the Beaufort Sea resulted in the environmentally safe startup of oil

exploration by six companies at 11 sites. Region 10 also issued the first general permits focusing on regulation of toxic pollutants from oil and gas exploration projects (Norton Sound, Beaufort Sea).

In the area of Federal-State relations, a novel provision of a State-EPA agreement rents a Region 10 EPA employee to provide certain hands-on consulting assistance in data gathering and management for Oregon -- with the State paying hourly costs of such assistance. Region 10 also has concluded an agreement with the State of Washington to share space and facilities at the Region 10 laboratory in Manchester, Washington.

Major environmental results expected in Fiscal 1985 include:

Completed cleanup of one Superfund site, partial cleanup at another, and removal of immediate threats at two additional sites.

Completed inspections of hazardous waste sites to ensure compliance with ground-water monitoring requirements.

Reduction in the number of persons served by drinking water systems in persistence noncompliance with Federal requirements.

Reduction in known environmental and health threats from wood preservatives. The new EPA regulations affect a major Northwest industry.

First-round asbestos inspections completed at schools.

Reduction in carbon monoxide pollution from startup of inspection and maintenance programs in Spokane, Washington, and Anchorage and Fairbanks, Alaska.

Significant barriers where Headquarters help would assist more than one EPA activity include:

Laboratory shortcomings. Private laboratories often cannot meet qualitative and quantitative requirements of EPA, States, industry.

Training. State and Federal staff lack training in ground water hydrology, geology and water-treatment technology for removing synthetic contaminants. Trained drinking water treatment plant operators are in short supply.

Public awareness. Much of the public is not convinced that carbon monoxide air pollution is a problem worth solving. Local officials and water suppliers are not convinced it is worthwhile to upgrade their systems. Resource constraints are affected by public perceptions.

Research on toxics. There is a growing need for establishment of criteria for toxics in sediments of fresh and marine waters.

With further respect to the Agency's priority list, EPA's national priorities generally seem congruent with those indicated by the Region 10 EMR; however, we believe the environment would more quickly benefit if EPA raised the priority ranking of the industrial pretreatment and nonpoint source pollution control programs.

PART II Regional Environmental Problems

1. EXPOSURE TO HAZARDOUS WASTES

a) Problem Characterization:

Past hazardous waste disposal practices continue to haunt residents of Region 10. The scope of the threat is only partly known: More than 800 potential sites -- up from 760 a year ago -- have been identified; about 5 to 10 percent are expected to present major problems. The basic industry in the Pacific Northwest is extraction of natural resources; for this reason, hazardous waste often is found in rural areas as well as in population centers. Alaska presents unique problems in that it has no hazardous waste disposal facilities and wastes must be transported long distances to facilities in other states.

Concern is focused on direct human exposure to hazardous or toxic waste, contamination of groundwater and threats to ecosystems. Contamination of groundwater is a special concern because of increasing reliance on this source for drinking water.

Public interest in mismanaged waste sites high at Western Processing in the Seattle suburb of Kent, in the Tacoma/Lakewood area and Spokane, due to contamination of ground water from landfills and industrial disposal practices. Helping the public understand and assess its stake at each site is perhaps the single greatest challenge to the Superfund program.

Problems related to past disposal practices are reflected in contamination of ground and surface waters, notably several marine embayments and estuaries. Region 10 has 20 sites on the Superfund National Priority List (NPL) -- four in Idaho, three in Oregon, 13 in Washington, and none in Alaska. The total is five more than a year ago. Additional sites may be added as assessments and investigations are completed at potential sites.

Information now available is inadequate to accurately depict the total quantity of hazardous waste generated, treated, or disposed of by the 1830 generators and/or transporters and 131 treatment, storage, or disposal facilities in the Region. The Northwest region receives substantial quantities of hazardous waste from other States and from Canada. A more definitive picture should be available in Fiscal 1985 from biennial reports submitted in 1984.

b) Progress During Fiscal 1984:

(1) Superfund:

Responded to six emergencies, most of which involved removal of soil contaminated with polychlorinated biphenyls (PCBs).

In response to EPA enforcement, responsible parties began a $9 million surface cleanup at the Western Processing site in Kent, Washington, reducing the threat of continual contamination of ground water.

EPA built a treatment system to clean contaminated ground water needed by about 600 householed in the City of Lakewood, Washington, and to prevent further spread of the contamination.

The State of Washington and Spokane County are providing a permanent alternative water supply to residents near the Colbert Landfill.

Five remedial investigations prerequisite to cleanup were initiated at sites on the National Priority List.

(2) Hazardous Wastes:

EPA and the States acted to enforce regulations dealing with manifests following a contractor survey of the manifest system. In addition enforcement actions were taken against more than 150 sites. At least eight of these actions accelerated installation of monitoring systems to tell whether waste management activities contaminated ground water. Permits will require corrective action at all active facilities with documented ground water contamination.

Military facilities in Alaska received help to comply with hazardous waste regulations and to obtain one storage permit.

Many facilities requiring ground-water monitoring were inspected, and the rest will be inspected during Fiscal 1985. The inspections included a review of monitoring, sampling and analytical systems. Systems found out of compliance will be corrected through EPA and/or State enforcement actions.

c) Proposed Strategy and Expected Results:

The Regional strategy focuses on preventing accidents and direct human exposure, abating problems in ground water and the food chain, and preventing new hazardous waste problems and exacerbation of existing ones. Headquarters provided staff training to deal with the public awareness challenge.

The Washington State Department of Ecology (WDOE) will lead four new Superfund investigations in Fiscal 85, and continue as lead on three investigations begun in Fiscal 84. EPA will work closely with Idaho, Oregon and Alaska environmental agencies on sites in those states where EPA has lead responsibility.

Results expected in Fiscal 1985 include:
(1) Superfund:

Completely clean up one site.
Handle approximately eight emergencies.
Remove immediate threats to the environment at two sites on the national priority list.
Complete partial cleanup at an additional site.
Complete engineering design for two additional sites.
Start remedial investigations at six additional sites.

(2) Hazardous Wastes:

Complete inspections of sites requiring ground-water monitoring.
Inspect approximately 270 sites to assure compliance.
Take enforcement actions as necessary.
Require submission of permit applications for remaining land disposal and incinerator permits, and call applications for storage permits as resources allow.
Review State RCRA-program applications and delegate the program as States become eligible.
Issue approximately 15 hazardous waste permits.
Identify hazardous waste handlers and bring them into compliance.
Evaluate ground-water monitoring systems at hazardous waste disposal facilities.
Assist military facilities in Alaska and other Region 10 states to improve hazardous-materials management practices of Defense Property Disposal Offices.

d) Barriers:

Private laboratories often cannot meet qualitative and quantitative requirements of EPA, States, industry.

State and Federal staff is inadequately trained to handle the geohydrological requirements of this complex, fast-growing program.

Some States cannot pay 10 percent of the cost of a Superfund cleanup, as required by law.

e) Headquarters Actions Needed:

Revise the National Contingency Plan to provide more flexibility on options for response.

Accelerate training, both of new employees and longer-term employees.

Produce and clarify enforcement policy guidance.

2. WATER SUPPLY: CONTAMINATION OF GROUND WATER AND DRINKING WATER SYSTEMS

a) Problem Characterization:

(1) Ground Water:

Reliance on ground water resources is increasing concurrently with the incidence of contamination problems. Past concern with microbiological organisms, nitrates and other inorganic compounds is being supplanted by a rise in concern over contamination due to volatile organic chemicals. These

chemicals are highly toxic and some persist for many years in aquifer structures.

Also of concern is an increase in the number of leaking underground storage tanks and contamination problems associated with land application of waste waters containing highly concentrated organic chemicals.

(2) Drinking Water:

The incidence of waterborne diseases in the Northwest is among the highest in the country, according to the U.S. Public Health Service Center for Disease Control. Population and economic growth outstripped the availability of raw water suitable for drinking without extensive treatment. Limited public funds are available to build and operate adequate treatment facilities. One State, Oregon, has not accepted delegation of the drinking water program; EPA Region 10 runs this program in Oregon.

b) Progress During 1984:

(1) Ground Water:

Region 10 expanded efforts to help States develop comprehensive ground-water protection programs.

Idaho completed work with sugar-beet processing plants to resolve taste and odor problems in private drinking-water wells near a land disposal site. Ground water quality improved and there have been fewer complaints as a result. In addition, Idaho contracted with the U.S. Geologic Survey to determine the source of taste, odor and bacterial problems in the Groveland area, which may also be the result of land application of wastewater.

The Region began work on two more ground-water problem areas, one related to use of ethylene dibromide as a soil fumigant and the other related to contamination from a military base. The military assumed responsibility for detailed investigation of the contamination and is providing an alternate source of drinking water.

Studies on ethylene dibromide (EDB) are being made in conjunction with State and local health agencies and are proceeding in each State. Ethylene dibromide application sites were identified and nearly 40 wells -- including about 25 public wells -- have been sampled. So far, about five wells have been found contaminated with EDB and users have been advised not to drink the water. Efforts are under way to provide alternative water sources or appropriate treatment.

(2) Drinking Water:

Major progress was made in Alaska in improving compliance with drinking water regulations. EPA developed an enforcement strategy in June 1983; this strategy mandated State enforcement actions against persistent violators of regulations. The percentage of persistent violators has declined by more than 5 percent each quarter. In addition, State courts assessed penalties totalling $1,500 in two separate enforcement cases

where public water systems refused to conduct required biological monitoring.

Oregon's commitment to safe drinking water increased. The State legislature raised the drinking water program budget by 30 percent, which included setting up three additional field offices.

c) Proposed Strategy and Expected Results:

(1) Ground Water:

The Region's proposed strategy focuses on integrating program activities, especially those under the Safe Drinking Water Act, Superfund, the Clean Water Act, and the Resource Conservation and Recovery Act (RCRA), to prevent ground-water contamination, and the cleanup of existing problems.

Development of State ground-water protection strategies is in various stages of completion. These will improve coordination among various Federal, State and local programs affecting ground water. Technical assistance will continue and in Fiscal 1985 additional financial support will be provided to States to complete problem identification, program modification, and initial expanded implementation. Actions expected in Fiscal 1985 include:

Provide technical and financial help to States to expand ground-water protection programs.

Proceed with the process of designating four sole-source aquifers, three in Washington State and one in Idaho.

Study water quality impacts from wells classified Class V under the Underground Injection Control program. Region 10 has 20,000 of these largely unregulated wells. This study is to be completed in Fiscal 1986 and may lead to specific operating requirements for these wells as needed to protect ground-water quality.

(2) Drinking Water:

Detailed State enforcement strategies will be developed in Fiscal 1985 to continue the compliance-improvement momentum begun in Fiscal 1984. EPA strategy in Oregon still aims to find and upgrade substandard systems, help the State develop its own program, and tell the public about problems and progress.

Results are measured in terms of changes in the percentage of systems meeting drinking water standards and changes in the number of people served by systems in persistent (four or more months a year) noncompliance with bacterial levels. This population numbered 11,000 in Fiscal 1983, down from 22,000 in Fiscal 1982.

d) Barriers:

(1) Ground Water:

State and Federal expertise in ground water hydrology, geology and

water-treatment technology for removing synthetic contaminants is limited.

Water quality management planning has low priority.

RCRA program still is not fully implemented.

Adequate ground-water monitoring and laboratory analyses are very costly.

No Federal program prevents or corrects ground-water contamination from conventional solid wastes.

Pollution from Class V wells and pits, ponds and lagoons has low priority nationally.

It is difficult, time consuming and costly to trace and link sources to contamination of aquifers.

(2) Drinking Water:

There are no national standards for organics in drinking water.

Trained operators are in short supply.

Treatment systems to remove organic contaminants are costly to build, operate and maintain, and expensive laboratory tests are needed to monitor contaminants of concern. Local officials and operators of private supplies are reluctant to make these costly improvements.

e) Headquarters Actions Needed:

(1) Ground Water:

Issue guidelines needed to implement national ground-water strategy.

Expedite evaluation of problems in Class V wells, and plan needed actions to protect them.

(2) Drinking Water:

Develop national standards or health advisories for volatile organic chemicals in water.

Develop and refine treatment methods such as aeration towers and granular activated carbon to remove volatile organic contaminants.

Develop low-technology, energy efficient treatment methods for small systems.

Relax low-priority water monitoring requirements to reduce costs of lab work for small systems.

3. TOXIC AND HAZARDOUS MATERIALS IN MARINE AND ESTUARINE SEDIMENTS

a) Problem Characterization:

Toxic contamination of urbanized marine and estuarine waters is a special concern in the Puget Sound area of western Washington -- the most urbanized coastal area in Region 10. Public concern over high rates of abnormalities and cancer among bottomfish and bacterial contamination of shellfish near urban areas increased this year. Although Federal and State enforcement activities have increased, knowledge and understanding of the environmental processes is inadequate to set standards or address all the causes of contamination and restore or protect the Sound. Many agencies at all levels of government are involved. New approaches are needed.

b) Progress During 1984:

Washington's Governor appointed the legislatively mandated Puget Sound Water Quality Authority, set up the Puget Sound Action Program Office in the State Department of Ecology (WDOE), and joined EPA Region 10 in requesting $12 million EPA funding for Action Program. The WDOE Director, EPA Regional Administrator, and chairperson of Puget Sound Water Quality Authority formed a directorate for the Puget Sound Action Program Office, assuring its relative independence as a coordinating body and watchdog.

Region 10 and the State Department of Ecology placed greater emphasis on coordinating enforcement, e.g., simultaneous EPA-WDOE orders telling a wood-treatment facility in August to stop actions that led to harbor-floor pollution, and provide data preliminary to possible cleanup orders.

WDOE is using Superfund money together with State and EPA staff to solve toxin problems in Commencement Bay (Tacoma). Multiple sources (industry, municipal, nonpoint) have severely impacted uses of the bay. Extensive data has been gathered to identify polluted areas and sources and tell how to remedy damage and prevent future problems. Implementation of the Commencement Bay action plan -- including reissuance of permits and other regulatory actions -- is expected to be a model for cleanup work in other urban bays around the Sound.

Interim criteria were developed by EPA and WDOE for the Four-Mile Rock open-water dredge-spoil disposal site in Elliott Bay. As cleaner materials are dumped at this site over the next year, sediment conditions will improve.

Election-year media attention to issues apparently related to Puget Sound contamination, e.g., deaths of gray whale calves, shellfish-bed closings, high levels of abnormalities and cancers in bottomfish, concentrations of polychlorinated biphenyls in harbor seals, etc., raised public alarm and official concern.

An environmentalist umbrella organization, the Puget Sound Alliance, was formed to unite public interest groups in Washington State to watchdog Puget Sound issues.

Tacoma is being required to implement an industrial pretreatment program. This program, already under way in Seattle, is intended to reduce discharges of industrial toxicants into municipal wastewater treatment systems.

Successful implementation would reduce future toxicant discharges to Puget Sound. Region 10 and WDOE also directed Seattle and Tacoma to plan construction of secondary treatment facilities by 1991 to further reduce pollution.

c) Proposed Strategy and Expected Results

The Puget Sound strategy is twofold, to manage existing waste discharges and new developments to minimize future problems in the Sound as a whole, and to clean up the urban-industrial bays and shellfish-culture areas. The first part involves assessing existing levels of contaminants and wasteloads, improving ability to predict impacts of future activities, and establishing appropriate standards or target levels for contaminants and/or effects against which projected impacts will be evaluated. The second part aims at setting specific cleanup schedules for six urban bays and selected shellfish growing areas.

Specific actions and results expected in Fiscal 1985 include:

Joint environmental impact statement work (under both Federal and State environmental protection acts) to assess or establish waste disposal sites in the deepwater Sound, to set criteria for sediments dumped at these sites, and to identify other sites for use when deepwater disposal is inadvisable or impossible.

Complete development of two more priority-bay action plans patterned on the Commencement Bay model. Implementation would be underway commensurate with plan completion.

Complete development of two watershed action plans to reduce bacterial pollution of prime shellfish beds.

Completion of basin-wide pollutant loading analysis. This will be a key management tool for long-term pollution control.

Establishment of a uniform management system for data collection and presentation.

Environmental indicators would include:

Reduced fish abnormalities and reduced health warnings regarding fish consumption.
Reduced sediment bioassay toxicity in urban bays.
Prevention of long-term cumulative impacts on Puget Sound.
Maintenance of healthy ecosystems and biota.

d) Barriers:

Inadequate knowledge of pollutant sources, loading, fate, and biological and public health effects of contaminants in Sound.

Inadequate information-management capabilities.

The number and variety of Federal, State and local agencies that affect Puget Sound's water quality.

Inadequate funding to develop nonpoint-source controls and support chemical and biological investigations.

e) Headquarters Actions Needed:

Approve funding of Puget Sound initiative and provide research and programmatic assistance to Puget Sound Action Program Office.

Office of Research and Development support to develop sediment criteria, study causes and effects of toxic pollutants and improve technology to monitor marine biological impacts of pollution.

4. PESTICIDES AND TOXIC SUBSTANCES

a) Problem Characterization:

One in every three jobs in the Pacific Northwest and Alaska, on the average, is tied to agriculture or the wood products industry -- three and one-half times the national rate. These industries are intensive users of chemicals. A large number of agricultural chemicals used in the Northwest -- about 35 in Fiscal 1984 -- are applied with special exemptions under Section 18 of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA).

During the past decade, wine grape growing increased significantly in Washington, often in the same general locale as wheatfields, where 2,4-D is widely used for weed control. A frequent complaint to the Washington State Department of Agriculture relates to damage of grapes by long-range drift of 2,4-D in the Columbia Basin and lower Yakima Valley. Drift of Dinitro and other dessicants used for weed control and cultivation also damages other crops.

Contamination of game birds and other wildlife with agricultural and other chemicals is a serious problem documented in monitoring by State and Federal agencies. PCBs also pose a potential threat. Required inspections for asbestos are under way, intended to cover more than 5000 public schools, 921 private and parochial schools, and 40 Bureau of Indian Affairs schools. About 80 facilities are primary producers or processors of asbestos, a known human carcinogen.

b) Progress During 1984:

Completed about 50 percent of the first-time asbestos inspections of local education agencies in Region 10.

c) Proposed Strategy and Expected Results

The Regional strategy is to improve monitoring and evaluation of State

pesticide programs, seeking to establish benchmarks for future planning. Other focuses are on Federal inspections and enforcement, compliance at Federal facilities, reducing availability of problem pesticides or those that are inadequately labeled, and issuing necessary permits for disposal of PCBs. Region 10 will emphasize regulations barring the use of PCB transformers in food processing facilities after October 1, 1985, and prohibit PCB capacitors in food or feed activities after October 1, 1988.

Exposure to friable asbestos materials is a major environmental problem in schools; however, Federal law places the primary responsibility for managing this problem on local school agencies. EPA assists such agencies by inspecting school facilities and -- under new legislation -- administers a program to help pay to abate the most serious problems.

Over the long term, Region 10 expects a decline in levels of persistent pesticides and other toxic chemicals in wildlife, plants, and the food chain. Actions and results planned for Fiscal 1985 include:

Implement national restricted-use measures affecting wood preservatives. In liaison with State inspectors, EPA will focus on reducing known environmental and health risks from creosote, pentachlorophenol and inorganic arsenicals and seek to ensure that industrial needs for these substances are safely met.

Complete first-time asbestos inspections at all local education agencies in Region 10. Provide grants and loans for abatement of friable asbestos materials in schools.

Identify dioxins and higher level isomers that may have a direct or indirect impact on the environment.

Implement the national Good Laboratory Practices plan to ensure that analytical procedures meet the highest standards.

Develop an effective preliminary pesticides program for Alaska to identify and inspect pesticides and reduce abuse and misuse.

d) Barriers:

Lack of Federal and State field inspectors to ensure compliance and provide technical assistance. The universe of sites considered for PCB inspections is more than 15,000. At the present rate, it could be several hundred years before all Region 10 sites where PCB usage is presumed will be inspected.

Temporarily hot public-affairs brushfires relating to a specific approved use of a pesticide or toxic substance. Response diverts resources from planned activities.

The small number and poor quality of laboratories available to analyze pesticide residues.

Low priority assigned to monitoring of State pesticide program effectiveness.

Lack of Agency policy on coordinating multi-agency response to chemical incidents.

Shortage of staff and travel allowance to perform asbestos inspections at large numbers of schools, including some in isolated rural and mountain areas.

e) Headquarters Actions Needed:

Better testing and anticipation of the environmental behavior of pesticides, especially the various volatile formulations of phenoxies and persistent insecticides such as endrin and heptachlor.

Raise priority of interagency, interdisciplinary training and contacts -- such as with the U. S. Customs Service and the U. S. Department of Agriculture's Animal and Plant Inspection Service -- to enhance program effectiveness at little additional cost.

Raise priority of work to monitor pesticide residues and other contaminants.

Better screening of Special Local Needs and Emergency Exemptions for bioaccumulation potential, wildlife impact, etc.

Establish background levels and a wildlife monitoring program for various residues to assess effectiveness of environmental programs.

Develop guidance on interagency coordination at chemical incidents.

5. LEAD POLLUTION

a) Problem Characterization:

National air quality standards for lead have been exceeded in several areas; however, the most serious problems are in areas where the main industrial sources are now closed and remedies are being sought under the Superfund program.. Major lead emitting facilities operating in the recent past in Region 10 include a primary smelter (Bunker Hill in Idaho), a battery maker (Gould in Portland, Oregon), and a recycling and secondary smelting operation (on Harbor Island, Seattle). All were shut down after 1980 and all are on the national priority list for Superfund.

Most remaining emissions to air in Region 10 are believed to originate from burning leaded gasoline in motor vehicles. Nationally, motor vehicles account for 90 per cent of all lead air pollution.

Lead threatens environmental health even after the particles fall to earth; contaminated dust may threaten ground or surface water quality, be resuspended by wind or human activity, or may be eaten by children playing in contaminated soils. Although major point sources of lead air pollution are shut down,

Superfund work at the sites continues to focus on lead debris and contaminated soils.

b) Progress During 1984:

Several areas near heavily travelled roadways in Region 10 showed violations of lead standards as recently as 1982; the standards are now met in all these areas. This improvement is due to reduction in the lead content of motor fuels.

The owner of the battery manufacturing site in Portland is removing batteries and remaining lead debris under a State enforcement order. This cleanup is nearly complete.

Local efforts resulted in paving over the worst lead-contaminated areas around the secondary smelter in Seattle.

c) Proposed Strategy and Expected Results

EPA's approach focuses on regulating emissions from the smelter in Idaho and using State, local and private resources, buttressed by Superfund if possible, to clean up contaminated sites elsewhere in the Northwest. For Bunker Hill, Region 10 requested $1.5 million from Superfund for an investigation and feasibility study to be initiated in FY 1985 as funding permits.

In Idaho's Silver Valley, site of the Bunker Hill primary lead smelter, additional health studies are underway. Studies when the smelter was operating showed dangerously high levels of lead in the blood of children living nearby. Region 10 proposed emission controls to e..sure attainment of national standards within three years after this facility resumes operation.

d) Barriers:

Funding to start a remedial investigation/feasibility study of the lead contamination around the secondary lead smelter in Seattle in 1985 has not been confirmed.

e) Headquarters Actions Needed:

Support Region 10-initiated final rulemaking on emission limits applicable to the Idaho lead smelter.

Fund remedial investigations and feasibility studies for the Seattle and northern Idaho lead Superfund sites.

6. AIR POLLUTION: CARBON MONOXIDE AND OZONE

a) Problem Characterization:

Carbon monoxide problems are almost entirely due to motor vehicle emissions and poor meteorological mixing. Measured by magnitude and frequency, carbon monoxide problems in Region 10 are among the worst in the United States. Ambient ozone standards are exceeded infrequently, and then only in the most populous airsheds.

b) Progress During 1984:

Ambient levels of carbon monoxide and ozone are down. Salem, Oregon, now seems to be free of excessive carbon monoxide. Seattle and Portland, with their inspection and maintenance (I/M) programs, and Eugene-Springfield, Oregon, also are rapidly approaching attainment of National Ambient Air Quality Standards for carbon monoxide. For ozone, the State of Oregon is preparing a request to redesignate Medford, Oregon, as an area where the national standard is attained. Further, standards for ozone also may be reached in both the Seattle-Tacoma and Portland-Vancouver areas; if the standards are not violated during the remainder of 1984, these areas may be redesignated as "attainment."

Significant progress also was made in State implementation planning. The 1983 environmental management report noted major problems with State implementation plans to achieve carbon monoxide standards in Boise, Idaho, and Spokane and Tacoma, Washington. However, with the startup of I/M in August 1984 in Boise and the scheduled start of I/M in July 1985 in Spokane, State carbon-monoxide plans for these two areas are being approved. The Tacoma carbon-monoxide cleanup plan was approved.

I/M rules and regulations also were adopted for Anchorage and Fairbanks. Both programs are to start in July 1985.

c) Proposed Strategy and Expected Results

Region 10 recognizes three areas where additional controls may be needed to ensure timely attainment of standards. The EPA-approved carbon monoxide plan for Medford called for implementation of an I/M program. However, I/M was voted down in a referendum in March 1984. EPA is disapproving the current SIP and proposing funding limitations as an incentive to solve the problem. Meantime, State and local officials are seeking to develop a control strategy to demonstrate attainment before the end of 1987.

Yakima was scheduled to attain carbon monoxide standards in 1982. However, occasional violations continue. This problem is being evaluated in a recently completed synoptic monitoring study.

Grants Pass is a newly discovered CO problem area for which the State of Oregon is preparing a request for designation to nonattainment. The State is prepared to develop a local attainment plan for this area.

d) Barriers:

Much of the public remains unconvinced that carbon monoxide is a health problem worthy of attention. As a consequence the public, industry, and government agencies are reluctant to commit resources to further reduce emissions. Inspection and maintenance programs to attain national standards in a timely manner encounter strong opposition in some places -- the Medford, Oregon, referendum being an example. A referendum petition also has been filed in Fairbanks.

States and industrial sources of ozone precursors argue that control

technology required under EPA guidelines is not "reasonably available" -- and EPA's requirement is more stringent than required in law. States in Region 10 often grant variances and submit case-by-case determinations along the lines of this argument. Emissions reductions therefore are less than projected.

e) Headquarters Actions Needed:

Support Region 10 decisions to apply sanctions against States and communities failing to implement I/M programs.

Respond quickly on case-by-case requests to evaluate reasonably available control technology for sources covered by control technology guidelines.

Produce a public information report on EPA success in controlling sources covered by control technology guidelines. The report should tell whether emissions reductions correspond to original projections and whether these guidelines are working.

7. AIR POLLUTION: PARTICULATE MATTER

a) Problem Characterization:

Eight areas in Region 10 are designated "nonattainment" as a result of failure to meet health-related standards for total suspended particulates (TSP). In some places, air quality gains from reduced industrial emissions are offset by growth in emissions from residential wood burning. Also, communities with no previous air quality problems are experiencing particulate pollution from wood stoves.

b) Progress During 1984:

Ambient concentrations of TSP are also decreasing in Region 10. Important air quality improvements are associated with implementation of control strategies. Due to these strategies, primary standard nonattainment areas for Pocatello and Soda Springs-Conda, Idaho, were reduced in size. Also, the States of Washington and Idaho are developing a joint request to redesignate the Lewiston-Clarkston interstate nonattainment area to attainment for primary TSP standards. Here, too, air quality gains were due to planned reductions in point- and area-source emissions. It also appears the primary TSP standard is now achieved in Vancouver, Washington, and is very close to being achieved -- if it is not actually being achieved -- in Seattle and Tacoma.

Steps are being taken to reduce wood-burning emissions. The State of Oregon restricted the sale of wood stoves to those certified as clean burning, beginning in 1986. The approved State implementation plan for Medford relies heavily on a variety of local measures to reduce wood-stove emissions. In Alaska, State and local rules increasingly curtail residential wood smoke emissions during periods of poor meteorological mixing.

Region 10 held three public meetings on arsenic-emission controls proposed as

National Emission Standards for Hazardous Air Pollutants to apply to the ASARCO copper smelter in Tacoma, Washington. The smelter uses ores having a high concentration of arsenic. EPA concluded additional controls and improved housekeeping and maintenance procedures would be needed to protect health. However, plans to close the smelter in June 1985 were announced before EPA could propose any additional requirements. An arsenic plant at the smelter, from which little air pollution has been emitted, will stay open with added controls and modifications to further reduce particulate emissions. Region 10 now is developing a policy to ensure smelter emissions do not increase during the pre-closure period. EPA also is starting a study in fall 1984 to determine routes by which arsenic enters the body; results will help establish priorities for arsenic cleanup at and near the smelter.

c) Proposed Strategy and Expected Results

Current concerns over ambient particulate matter focus on small airborne particles that can be inhaled deep into human respiratory tracts and cause significant damage. Earlier this year, EPA proposed standards for particles 10 microns in diameter and smaller (PM-10). State and local agencies are awaiting PM-10 monitoring equipment (or EPA funding for State/local purchase), national policy on transition from TSP to PM-10, monitoring and SIP requirements, and promulgation of the standards themselves. As this information and guidance become available, States will initiate efforts to control these small particles in order to attain the new standards.

d) Barriers:

The new particulate standard has not yet been finally published. States and local agencies lack definitive regulatory instructions and are reluctant to initiate complex, controversial, or unpopular programs to control airborne particulate matter until the uncertainty is resolved.

e) Headquarters Actions Needed:

Expedite publication of the new standard for small (PM-10) particulates, define national policy on the transition from TSP to PM-10, and set monitoring and attainment-plan requirements.

8. MICROBIOLIGICAL CONTAMINATION OF ESTUARINE AND SHELLFISH AREAS

a) Problem Characterization:

Richly productive shellfish beds in Washington and Oregon are in estuarine waters subject to bacterial contamination from point and nonpoint sources. Over the past few years, these areas -- both commercial and recreational -- have been closed many times due to microbiological contamination that might cause illness or death in humans. Cases of human illness due to consumption of shellfish have been reported.

b) Progress During 1984:

Washington Department of Ecology and Department of Social and Health Services began implementing a shellfish protection plan for Puget Sound. This followed completion of a study indicating large- and small-animal husbandry operations and urban stormwater were principal sources of coliform bacteria contaminating shellfish beds.

The causes were identified from State water quality monitoring in Minter Bay and Burley Lagoon (areas recently closed to shellfish harvesting). Watershed plans for controlling sources through voluntary, regulatory and educational programs, as well as for technical assistance to local government and shellfish producers, are in development. For example, Pierce and Kitsap counties are developing rules to control runoff from amateur, or "hobby," farms. Plan implementation is to be evaluated after follow-up monitoring in two or three years.

Implementation of two-thirds of the waste control plan for dairy farms in Tillamook, Oregon, has been completed at a cost of more than $3 million, aimed at reopening large shellfish beds there. Results are to be measured during follow-up monitoring in 1985-86.

c) Proposed Strategy and Expected Results

Both Washington and Oregon have directed attention to protecting commercial shellfish harvests, mainly relying on basin plans and efforts to upgrade sewage treatment facilities, enforcing National Pollutant Discharge Elimination System permits, developing and implementing best management practices for nonpoint sources, preparing environmental assessments under the Section 404 dredge-and-fill program, and administering the Coastal Zone Management and Shoreline Management programs.

The State of Washington developed a shellfish management project as part of the Puget Sound water quality management program. This project and another in Grays Harbor County on the Pacific Coast is being coordinated among State, county and local agencies. Oregon's approach has been to direct Federal funds to improve local options for sewage treatment plants and nonpoint source management.

Efforts to control farm waste and to improve municipal sewage treatment capacity have begun in an effort to reopen extensive shellfish beds at Coos Bay, Oregon. Problems at Coos Bay are from combined sewer overflows, inadequate municipal treatment plants, failing septic tanks, and agricultural nonpoint sources. Coos Bay and North Bend, the two municipal dischargers to the bay, are high on Oregon's priority list for facility improvements. These are to be completed by 1988 and water quality improvements should be noticeable soon thereafter.

An element of the Puget Sound Water Quality Management Program would focus on determining pollution-related causes of blooms of algae that cause paralytic shellfish poisoning.

Progress would be measured in the number of acres certified for shellfish harvesting, 234,138 in 1984.

d) Barriers:

Failure to identify or consider shellfish beds in some EIS evaluations.

Difficulty in precisely determining causes of problems and/or the relative severity or loading of point or nonpoint sources.

Inadequate monitoring and control programs.

Questions about fecal coliform bacteria as most appropriate indicator organism.

e) Headquarters Actions Needed:

Support flexibility in use of available funds to develop nonpoint-source controls and conduct more monitoring.

Provide guidance on water quality criteria and standards for toxics and other conventional parameters in marine estuarine waters.

Continue research on bacteriological criteria for estuarine waters.

Support research on the growth requirements of algae responsible for paralytic shellfish poisoning.

9. FISHERY DAMAGE FROM CONTAMINATED WATERS

a) Problem Characterization:

A combination of overfishing, pollution, and loss of habitat severely depressed fishery resources in Region 10 in the past 50 years. One result is that a food that once was a dietary staple has become a luxury. Public demand for enhancement of the fishery is growing. Congressional concern over the Northwest fishery was reflected in the Northwest Power Act of 1980, which directed the Northwest Power Council to establish a program to protect and restore fish and wildlife resources damaged by the construction of hydroelectric dams. Loss of wetlands habitat also is a high priority in Region 10.

Toxicity, high concentrations of suspended solids, and excessive nutrient loadings that degrade water for fish are associated with major industries supporting the Northwest economy. The challenge to EPA Region 10 and States is to develop operating procedures that allow economical operation of these industries while minimizing damage to existing fisheries or other designated beneficial uses.

b) Progress During 1984:

Water quality improvements already are visible as a result of compliance with 63 permits developed by Region 10 for fish hatcheries in Idaho. Definitions of best control technology and discharge limits for these hatcheries will be

considered nationally as a means to reduce suspended and settleable solids in pristine streams. Some hatchery operators attribute a reduction in disease to these improvements. About 90 percent of the commercially raised trout in the United States come from Idaho.

General permits to safeguard the Alaskan waters of Norton Sound and the Beaufort Sea against pollution from oil and gas exploration projects were issued as the culmination of several years' work with producers, explorers, and several State and Federal agencies. General permits for the Bering Sea and for additional areas in the Beaufort Sea were issued this year. These are the first oil and gas general permits focusing on regulation of toxic pollutants. The issuance of these permits resulted in the environmentally safe startup of oil exploration by six companies at 11 sites.

Also affecting Alaska, a general permit was developed after many years' work with Alaska fish processors to ensure that past waste-handling practices do not continue to endanger rich fish resources in national and international waters. Processors at Dutch Harbor and Petersburg, places where wastes once asphyxiated fish, also are now subject to Federal limits on their discharges.

Region 10 prepared a mitigation policy to be used in review of projects involving the filling of wetlands and other important aquatic habitat. The policy goal is to preserve and enhance fishery and wildlife habitat values.

Oregon and Washington are developing plans to control discharges from confined animal feeding operations threatening to contaminate many miles of surface water as well as ground water. As a result of increased concern by the State of Idaho, Region 10 is assessing the relationship between feedlots and water quality. Alaska is using 205(j) funds to control wastes from a 15,000-acre project consisting of 19 dairies; nearby surface waters and ground water would be cleaned up when the project is complete.

On urging by Federal and State agencies, the Bonneville Power Administration began looking for a contractor to consult on measures to mitigate the effects of heavy metals in cobalt-mine drainage to Blackbird Creek, Idaho. About 576 of headwater spawning streams have been blocked from anadromous fish runs due to heavy metals from mining waste.

More than 450 individual three-year permits were issued for gold placer-mine discharges in Alaska. Gold placer mining accounts for siltation problems on numerous streams in Alaska each year, as well as for toxic contamination affecting fishery quality. Issuance of permits was followed up with extensive EPA compliance inspections.

c) Proposed Strategy and Expected Results

The diversity of fishery resources in Region 10 requires individual control strategies for each particular area. In general terms, Regional Office strategy is to use State-EPA agreements to identify high-priority waters critical to fisheries enhancement, and to allocate Clean Water Act Section 205(j) funds to encourage State and local work in these areas, to use the National Pollutant Discharge Elmination System to reduce or remove contaminants entering these waters, and to use the environmental impact statement process to mitigate the effects of new developments, to ensure that

best management practices are required in land-use contracts on Federal and State lands, and to use public information techniques to promote protection of fisheries resources.

In some areas, interagency research programs will identify chemicals damaging aquatic biota, and determine levels at which these chemicals may cause little or no harm in sediments. While this information is under development, interim dredge-spoil disposal standards are being developed to prevent further deterioration of the fishery. The start of a broad environmental assessment of dredge-spoil disposal sites and policies in Puget Sound is a goal for Fiscal 1985.
Region 10 will issue four general permits during 1985 for oil and gas exploration activities.

Under way is work to develop national effluent guidelines for placer mine discharges. Draft guidance is to be issued during Fiscal 1985. In a related development, Alaska's Legislature voted more than $2 million for a State interagency effort to develop placer-mine-discharge guidelines based on stream usage. The money would pay for innovative treatment technology grants and for stream reclassification studies.

d) Barriers:

Lack of information on safe levels of sediment contamination.

Lack of resources for State cost sharing programs to deal with nonpoint sources.

e) Headquarters Actions Needed:

Establish a nonpoint source policy and strategy.

Provide research and regional contract funds to continue sediment criteria development.

Require States to have a current water quality management plan describing point and nonpoint source control measures to be taken for each priority water quality problem area.

PART III Recommendations for the Agency's Priority List FY 1986-1987

Earlier this year, Region 10 managers were asked to answer "big picture" budget questions going beyond their own programmatic concerns. They were asked, "If you could choose a single area to receive increased resources in the FY 86 budget, what would it be?"

Five items stood out in the answers:

1. Enforcement and Compliance.

Insufficient resources limit our enforcement efforts in virtually all programs. The type of need varies: travel ceilings limit our inspection trips in many programs; more contractor funds would extend our presence; additional FTEs are important. We hope budget analysts will examine the adequacy of enforcement resources. They should focus on RCRA, where we are still building an enforcement presence.

2. Resource Conservation and Recovery Act programs.

Problem-prevention programs under RCRA are less spectacular than cleanup activities under Superfund; however, we shortchange RCRA at our long-term peril.

In addition to enforcement resources, RCRA resources are inadequate in the following areas:

Permitting. Resources for treatment, storage and disposal permits are inadequate.

State Resources. It is doubtful States have resources to do the job we expect.

Recovery. EPA should stimulate recycling to reduce the volume of hazardous wastes being regulated, rather than merely regulate storage and disposal of ever-increasing amounts. Related areas for consideration: Recycling conventional solid wastes and using the energy in such refuse.

3. Nonpoint Source Water Pollution.

Resources are needed here for both State and EPA programs. As more and more point-source violations are corrected, pollution from nonpoint sources becomes a major concern. In their 1983 Environmental Management Reports, six of 10 EPA regions cited nonpoint-source pollution as the principal cause of water quality standards violations. Given the relative magnitude of the problem, resources now devoted to solutions seem extremely small.

The problem requires solutions originated with local initiatives and involvement. As was shown in the Section 208 program, Federal support can spur States and local governments, with significant citizen participation, to reduce or eliminate this kind of water pollution. Local education and action programs could make significant inroads on the problem.

The key to controlling nonpoint sources in Region 10 is careful targeting of

resources to maximize water quality benefits. Effective targeting requires (1) identification of use-impairments caused specifically by nonpoint sources, (2) ranking priority water bodies for concentrated attention, (3) pinpointing specific land management practices causing the problem, and (4) designing and implementing cost-effective management practices. These four elements are essential and would be required under proposed Federal water quality legislation.

4. Ground Water.

More than half the Nation's drinking water comes from ground water, but we only partly understand our ground-water resources and the extent to which they are being adversely affected by environmental contamination. Data is dispersed among several Federal and State systems and efforts are needed to consolidate existing information, access new data, and be able to more readily identify major problems. Additional resources also are needed to carry out model programs for prevention and cleanup and to proceed forcefully with the implementation of the Agency's national ground-water strategy.

5. Training.

Adequate staff training is critical at both State and Federal levels. Environmental program management requires a high degree of expertise in an exceptionally wide variety of fields. Trial advocacy, information management, toxicology, epidemiology, and geohydrology are some of the disparate areas where training is needed.

As our ability to increase our manpower pool diminishes, it is increasingly important that we seek to use current employees to the fullest. An expanded commitment to training is an important component in maintaining an experienced, professional, motivated staff.

With respect to EPA, the National Academy of Public Administration report endorsed this idea even more strongly, stating, "EPA should design and schedule the implementation of a comprehensive program of career development and training for both its present and future workforce."

Despite the long-term importance of training, funds for training often are diverted to short-term needs. Also, restraints on out-of-state travel may curtain training. We suggest, first, increased funds for training be included in the FY 86 budget and, second, a certain sum be earmarked explicitly for training and made available to the Regions and various Headquarters offices.

Some additional Region 10 suggestions for FY 86 priority consideration:

Upgrade EPA laboratories to rely less on contractors in handling evidence for enforcement proceedings.

Increase efforts to develop enforcement guidelines and policies for greater agencywide consistency.

Upgrade data collection and monitoring capacity for all programs to establish baseline levels and develop an integrated, rational environmental strategy.

Improve EPA's ability to transfer technology and disseminate research

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information and results within EPA and the States, as well as to the public. Consider reactivating the position of R&D representative in each Region.

Expand management support resources to keep pace with EPA's increasing responsibilities and activities.

Provide a pool of contract funds directly to Regional Administrators to use to support programs. Reliance on Headquarters level-of-effort contracts is inefficient, time consuming and often ineffective in solving region-specific problems.